Library Imports:

```
10
11 from keras.layers import Conv2D, Maxpooling2D, UpSampling2D
12 from keras.models import Input,Model
13 from keras.activations import relu
14
```

Input and Example of Contracting Path:

```
15
16 x = Input(572,572,1)
17
18 conv1 = Conv2D(64,(3,3),paddding = 'none', activation = 'relu', kernel_initializer = 'he_normal')(x)
19 conv2 = Conv2D(64,(3,3),paddding = 'none', activation = 'relu', kernel_initializer = 'he_normal')(conv1)
20 pool1 = Maxpooling2D(pool_size = (2,2))(conv2)
21
```

Middle Layer and Example of Expanding Path:

```
35
36 conv9 = Conv2D(1024,(3,3),paddding = 'none', activation = 'relu', kernel_initializer = 'he_normal')(pool4)
37 conv10 = Conv2D(1024,(3,3),paddding = 'none', activation = 'relu', kernel_initializer = 'he_normal')(conv9)
38
39 up1 = UpSampling2D(size = (2,2))(conv10)
40 conv11 = Conv2D(512,(2,2),paddding = 'none', activation = 'relu', kernel_initializer = 'he_normal')(up1)
41 conv12 = Conv2D(512,(2,2),paddding = 'none', activation = 'relu', kernel_initializer = 'he_normal')(conv11)
42
```

Final Layers:

```
51 up4 = UpSampling2D(size = (2,2))(conv15)
52 conv16 = Conv2D(64,(2,2),paddding = 'none', activation = 'relu', kernel_initializer = 'he_normal')(up4)
53 conv17 = Conv2D(64,(2,2),paddding = 'none', activation = 'relu', kernel_initializer = 'he_normal')(conv16)
54
55 out = Conv2D(2,(1,1),paddding = 'none', activation = 'sigmoid', kernel_initializer = 'he_normal')(conv17)
56
57 model = Model(input = x, output = out)
58 model.summary()
```